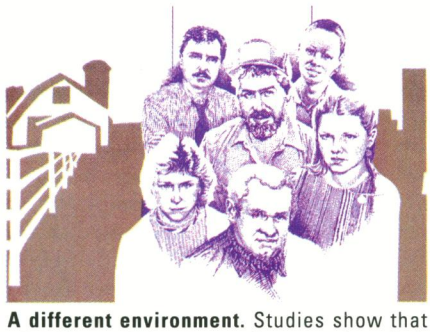
Institute of Environmental Health Sciences (NIEHS) is to reduce the burden of human illness and dysfunction from environmental exposures by understanding each of these elements and how they interrelate. NIEHS achieves its mission through multidisciplinary biomedical research programs, prevention and intervention efforts, and communication strategies that encompass training, education, technology transfer, and community outreach.

One major theme in the document is good science for good decisions. "Environmental health policy is only as good as the scientific foundation upon which it rests," states the report. NIEHS must maximize the effectiveness of public policy decisions by providing the most complete information on the environmental components of human disease and the biological mechanisms of these diseases. The institute is interested in promoting clinical research programs that can more readily translate laboratory findings into practical human therapies.

More than identifying environmental causes of diseases, NIEHS seeks to understand the molecular and genetic basis of environmentally related disorders, relying on recent advances in molecular biological techniques that enable scientists to understand the interaction of environmental agents and basic cellular functions. Promising areas for such advances include environmental effects on cell proliferation and apoptosis, events controlling differentiation and development, receptor-mediated pathobiology, and genetic susceptibility and predisposition to environmentally related diseases.

Vision for the Future sets out the institute's approach to prevention of and intervention in environmentally related disease and dysfunction. In hazard identification and characterization, NIEHS proposes to use approaches including mechanistic data, biomarkers, noncancer endpoints, development of animal model systems, and sentinel animals.



A different environment. Studies show that minorities and the poor suffer more than their share from pollution.

The report acknowledges the institute's role in providing a science base for social policy, especially in the areas of environmental justice, global climate change, and bioethics related to emerging science and technology. *Vision for the Future* also describes the institute's considerable role as an educational institution, promoting the education of science professionals in the multidisciplinary studies that are vital to environmental health sciences.

Communication is central to NIEHS's mission. Community outreach is vital to addressing environmental concerns that frequently occur in localized areas. The institute actively seeks to transfer technology developed in its laboratories to clinical and other applied use. Workshops, symposia, and conferences supported and hosted by NIEHS, often in collaboration with other organizations, are another major forum for communication.

To obtain a copy of *Vision for the Future* or the task force report, *Human Health and the Environment: Some Research Needs,* write, phone, or FAX the NIEHS Office of Communications, MD B2-05, PO Box 12233, Research Triangle Park, NC 27709; telephone (919) 541-3345, FAX (919) 541-0462.

Applications for Grants on EMF Effects Requested

People from all walks of life and of all ages are exposed to power frequency (60 Hz) electric and magnetic fields. Increasingly, scientists, regulators, and the public are asking whether human exposure to these fields involves risks to human health. NIEHS proposes to respond to these concerns by issuing two requests for grant applications (RFAs) on biological effects of electromagnetic fields (EMF).

Examples of research areas of interest under one RFA are the *in vivo* effects of EMF on melatonin; effects on reproduction and development; effects on the neuroendocrine system; effects on behavior, and effects on tumor promotion or other aspects of cancer development. Investigators are encouraged to study these or other topics that have been reported in the peer-reviewed literature.

In addition, the RFA notes that the effects of EMF on the behavior of cells exposed to electric and/or magnetic fields *in vitro* have often been cited. For example, there have been reports of EMF effects on cell membranes, RNA transcription, ornithine decarboxylase activity, calcium-ion efflux, and cellular response to hormones. Examples of research interests under this RFA include effects on calcium and calcium-mediated processes; effects on gene expression, particularly genes that may be involved in cancer; effects on signal transduction; effects on proto-oncogenes such as c-*myc*, c-*jun*, and c-*fos* in human cells; and effects on activity of protein kinase. Applications may be in any area previously reported in peer reviewed literature.

To ask questions or to receive a copy of the RFA, contact NIEHS either by FAX at 919-541-2843 or voice mail at 919-541-3319 or write to Michael J. Galvin, Jr., program administrator, Environmental Health Resources Branch, Division of Extramural Research and Training.

Environment–Breast Cancer Link and Community Outreach Targeted

The National Advisory Environmental Health Sciences Council, a key advisory body of NIEHS made up of outside science and public health professionals, has given approval for the institute to request research grant applications in two high priority areas: the determination of a possible link between environmental agents and breast cancer and the role that socioeconomic disadvantage might play in environmentally related disease and dysfunction (environmental justice). Requests for applications (RFAs) will be published in the *Federal Register*, the *NIH Guide to Grants and Contracts,* and the *Commerce Business Daily.*

The RFA on environmental agents and breast cancer will focus on the critical timing of environmental exposures and their relationship to changes in the growth and development of the mammary gland. Critical periods of time include the fetal period, birth to puberty, puberty, puberty to first pregnancy, pregancy, lactation, surgical and natural menopause, and postmenopause. Other critical periods of time may also be identified and should be studied in relation to cancer development and latency.

Exposures to chemicals or other agents that may act as environmental estrogens and influence the endogenous levels of all relevant steroid hormones are of interest. Research that explores the biologic mechanism of these environmental effects on cell growth and development and hormone synthesis and regulation will help researchers to better understand the role of these agents. Cellular processes that may be involved include cell proliferation, apoptosis, ovarian and pituitary steriod metabolism and bioavailability, growth factor regulation, ductal morphogenesis, and mammary gland cell differentiation. Research is encouraged using animal model systems, human cell lines, and tumor and normal breast tissue samples from animals or humans. For further information contact Gwen W. Collman, program administrator, NIEHS, (919) 541-4980, FAX (919) 541-2843.